

United States  
Department Of  
Agriculture

Forest  
Service

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Reply To: 3420

Date: February 22, 1989

Subject: Fire Blight on Pears at Coffee Creek Guard Station  
(Report No. N89-2)

To: District Ranger, Weaverville RD

On February 16, 1989, David Schultz, Entomologist, and I met with Jim Ratliff, Weaverville RD, at the Coffee Creek Guard Station to examine some pear trees on the facility's grounds. The pears had suffered some twig blighting in 1988. A local citizen had inquired about what actions the District might take to alleviate the problem because of concerns for trees on his property.

The blight had been tentatively identified as fire blight. The dead twigs and branch cankers we observed are typical of fire blight. This disease is caused by a bacteria, Erwinia amylovora, that attacks a wide range of hosts in the Rosaceae family. Pear is a major host, as are apple and mountain ash which are also located on the compound. Symptoms were not seen on the apple trees, but it did appear that the mountain ash were infected.

Fire blight affects the flowers and fruit spurs, and can cause twig and branch cankers. This primarily affects tree appearance and fruit production. In severe cases, major portions of the crown or an entire tree can be killed.

The bacteria is spread in the spring by pollinating insects when they fly from infected flowers to healthy flowers and transmit the bacteria. It can also spread in a tree through rain splash of bacterial ooze.

Because of the prevalence of this disease, control measures will not eradicate it in an area. Taking actions against the disease on the compound will not provide any protection to hosts on surrounding properties. Those interested in protecting their trees and shrubs must take actions against the disease on individual hosts to reduce disease impacts.

Any measures implemented should be aimed at reducing the impact of the disease on host trees. Recommended measures that are available include removing infected tissue and protecting the flowers from new infections during rainy periods. Prior to bud break, infected host tissue should be pruned from hosts. When pruning, canker margins must be located on each twig or branch and the pruning cut made at least 8 inches below the margin. This increases the probability of cutting beyond where the bacteria is present in the woody tissue. Pruning should occur during dry periods, preferably when it is cold. After each cut, the pruning tool must be disinfested by dipping it in a 10% bleach solution (1 cup Clorox:9 cups water). Pruning will reduce the amount of spread of the bacteria through bacterial oozing. Pruning can also be done during the growing season but should be limited to removing missed or new

infections. The distance from the canker margin should be increased to 12 inches because of the faster growth rate of the bacteria.

Spraying the trees during the flowering period will also reduce disease impact, especially if rainy conditions prevail. The recommended treatment is to use an organic copper pesticide to reduce the number of flower infections. Registered pesticides are available at farm and garden stores for this use and label directions should be followed. The benefits and timing of spraying depend on the occurrence of rain and dew during the blooming period. If it is dry while the trees are flowering, there is little need for spraying. If it is rainy, several applications may be necessary.

If you have any questions or need further assistance, please contact me at (916) 246-5101.

\s\ Gregg DeNitto

GREGG DeNITTO  
Forest Pathologist  
Northern California FPM Service Area